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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/614,961	07/13/2000	Richard L. Antrim	205733	6954

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EXAMINER
OWENS JR, HOWARD V

ART UNIT	PAPER NUMBER
1623	

DATE MAILED: 10/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/614,961	ANTRIM ET AL.	
	Examiner	Art Unit	
	Howard V Owens	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-22 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CAR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claim Objections

In claims 1, 9,15 and 19 use of the abbreviations "DE and DP" while accepted art abbreviations should be set forth initially as the full written terms (said abbreviations are intended to represent).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 16-18 depend from "claim 48"; however, claim 48 does not exist as an originally filed claim. Cancellation of the claims or corrected dependency is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CAR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CAR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CAR 3.73(b).

Claims 5 and 15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5, 21-24 and 37 of copending Application No. 09/366,065 ('065). An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claims(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 5 and 15 are generic to all that is recited in claims 1-5, 21-24 and 37 of '065. That is, claims 1-5, 21-24 and 37 of '065 fall entirely within the scope of claims 5 and 15, respectively. Claim 5 anticipates claims 1-5, 21-24 given that the same method of reducing the maltooligosaccharide through catalytic hydrogenation wherein the DP profile is preserved and the DE is essentially zero is employed, the only difference is a specific DP profile to be preserved is set forth. Claim 15 anticipates claim 37 of '065 as it sets

forth the same initial step of starch hydrolysis with subsequent catalytic hydrogenation to preserve the DP and achieve a DE of essentially zero.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15 and 19-22 are rejected under 35 U.S.C. § 102(b) as being anticipated by Borden et al., U.S. Patent No. 5,601,863.

Claims 1-14 and 19-22 are drawn to a method for reducing a mixture of a plurality of malto-oligosaccharide species to a DE of essentially zero, comprising catalytically hydrogenating said mixture of malto-oligosaccharide species under hydrogenation conditions suitable to substantially preserve the DP profile of said mixture wherein the temperature ranges from about 50° C to about 150° C and a pressure ranging up to about 1500 psi.

Claim 15 is drawn to a method for reducing a mixture of a plurality of malto-oligosaccharide species to a DE of essentially zero, comprising catalytically hydrogenating said mixture of malto-oligosaccharide species under hydrogenation conditions suitable to substantially preserve the DP profile of said mixture wherein the pressure is at least 1500 psi and the malto-oligosaccharides are obtained from starch hydrolysis.

Borden anticipates the claims cited supra as it teaches the catalytic hydrogenation of malto-oligosaccharide species, DP ranging from 4 to 52 (1,500 to 18,000 m.w. – col. 2, lines 23-30 and claim 5) using Raney nickel catalyst under conditions of 20° C to 200°

C with the pressure ranging from 50 psi to about 3000 psi (col.3 – col.4) and pH 3 to 9. Borden teaches that the hydrogenation is carried out until there are substantially no reducing glucose syrups, less than 1% by weight, which inherently anticipates a DE value of essentially zero. Borden further teaches that the malto-oligosaccharides maybe obtained from acid hydrolysis of naturally occurring glucose polymers or starch hydrolyzates (col.3, lines 3-13).

Borden teaches that the hydrogenation is carried out until there are substantially no reducing glucose syrups because the presence of reducing glucose syrups in malto-oligosaccharides can result in undesirable properties such as dark color, bitter taste and undesirable reactivity with amines.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-15 and 19-22 are rejected under 35 U.S.C. § 103 as being unpatentable over Borden et al., U.S. Patent No. 5,601,863.

Claims 1-14 and 19-22 are drawn to a method for reducing a mixture of a plurality of malto-oligosaccharide species to a DE of essentially zero, comprising catalytically hydrogenating said mixture of malto-oligosaccharide species under hydrogenation

conditions suitable to substantially preserve the DP profile of said mixture wherein the temperature ranges from about 50° C to about 150° C and a pressure ranging up to about 1500 psi.

Borden teaches the catalytic hydrogenation of malto-oligosaccharide species, DP ranging from 4 to 52 (1,500 to 18,000 m.w. – col. 2, lines 23-30 and claim 5) using Raney nickel catalyst under conditions of 20° C to 200° C with the pressure ranging from 50 psi to about 3000 psi (col.3 – col.4) and pH 3 to 9. Borden teaches that the hydrogenation is carried out until there are substantially no reducing glucose syrups, less than 1% by weight, which inherently anticipates a DE value of essentially zero.

Borden teaches that the hydrogenation is carried out until there are substantially no reducing glucose syrups because the presence of reducing glucose syrups in malto-oligosaccharides can result in undesirable properties such as dark color, bitter taste and undesirable reactivity with amines.

However, Borden does not teach the specific malto-oligosaccharide compositions wherein the DP profile of the malto-oligosaccharide and the percent weight thereof differs in each composition.

Although the identical concentration ranges are not disclosed in the reference cited supra, applicant is using commercially available malto-oligosaccharide mixtures wherein the novelty of the invention is not the weight and DP profile of the composition, but the reduction of the DE value to zero with preservation of the DP profile via catalytic hydrogenation of the malto-oligosaccharide mixture.

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to use catalytic hydrogenation to reduce the DE value of a malto-oligosaccharide composition.

A person of ordinary skill in the art would have been motivated to use catalytic hydrogenation to reduce the DE value of a malto-oligosaccharide composition to essentially zero given the art recognized benefits of a reduction/elimination of undesirable properties such as dark color, bitter taste and undesirable reactivity with

amines when the malto-oligosaccharides are catalytically hydrogenated to substantially remove the reducing groups present.

Howard V. Owens
Patent Examiner
Art Unit 1623

James O. Wilson
Supervisory Patent Examiner
Technology Center 1600

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Howard Owens whose telephone number is (703) 306-4538 . The examiner can normally be reached on Mon.-Fri. from 8:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the Supervisory Patent Examiner signing this action, James O. Wilson can be reached on (703) 308-4624 . The fax phone number for this Group is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1235.